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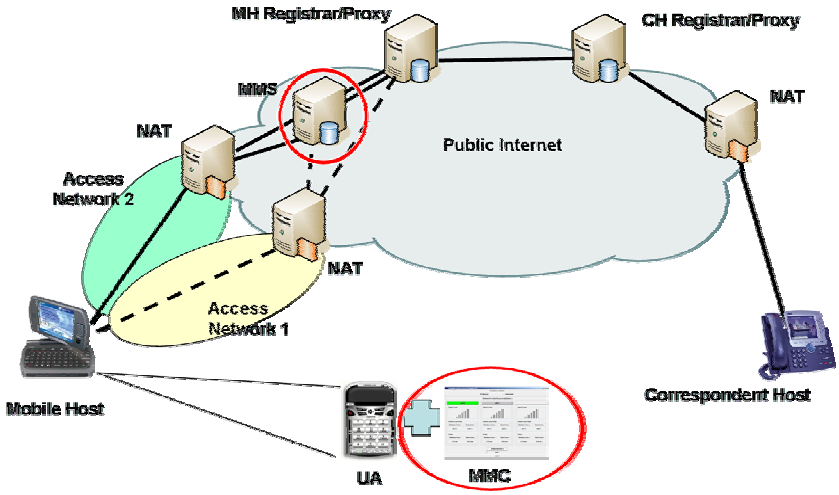
MMUSE: Mobility Management Using SIP Extensions

What is MMUSE?

MMUSE is a a Session Initiation Protocol (SIP) based solution for mobility management that provides seamless mobile multimedia services in a heterogeneous scenario where different radio access technologies are used (e.g. 802.11/WiFi, Bluetooth, 2.5G/3G networks). This solution relies on extensions to the so called SIP "Session Border Controllers" (SBC). A SBC is a device typically located at the border of an IP network which manages all the sessions for that network. It is often use in order to allow client behid NAT (Network Address Translator) to make and receive calls.

Our basic idea is to extend the signaling and media functionalities of the SBC in order to manage mobility. To this aim we introduce a new entity, called Mobility Management Server (MMS), within the SBC. This entity exchanges SIP messages with another entity called Mobility Management Client (MMC). The MMC is placed in the Mobile Terminal as shown in the following picture.



Thanks to some extentions to the SIP protocol, the MMC and MMS can manage the Terminal mobility through different access networks. For more details about this see refences section.

A prototype of MMUSE solution was developed by University of Rome "Tor Vergata" and University of Parma. This prototype is written in java and uses mjsip as SIP stack. The source code is released under GPL 2 license.

References

International jurnals

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- S. Salsano , L. Veltri, A. Polidoro, A. Ordine, "Architecture and testbed implementation of vertical handovers based on SIP Session Border Controllers", Wireless Personal